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USSR (600)

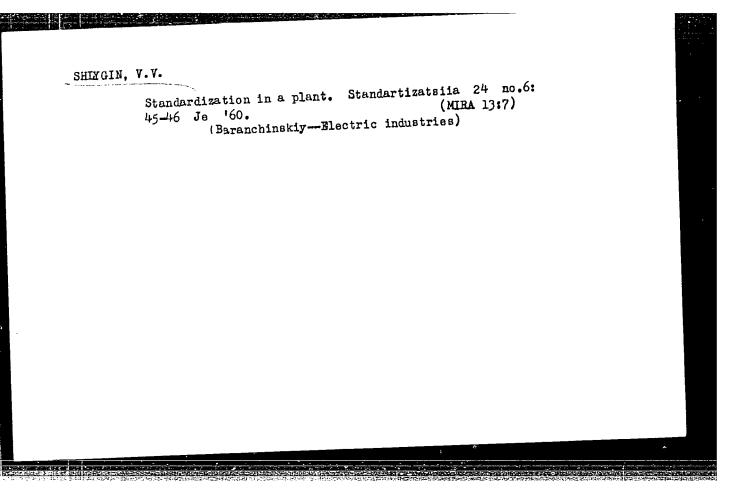
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34164 s/196/62/000/002/016/023 E194/E155

18.110

Nakhalov, V.A., Shlygin, V.V., and Moiseyenko V.S.

AUTHORS: TITLE:

The coefficient of linear expansion of steel

1X 18 H 12 T (1Kh18N12T)

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.2, 1962, 5, abstract 2G 41. (Elektr stantsii) 32-no.7, 1961, 26-27).

An experimental study was made of the coefficient of linear expansion on specimens of steel lKh18N12T cut from TEXT: industrial steam piping. Currently available published data for this steel are apparently too high by 10%, because at working temperatures the actual displacements of steam lines were very different from the calculated values. The new values of mean coefficient of linear expansion (α) are as follows. These values are about 11% lower than those given in handbooks. As the equipment used for the measurements was not entirely reliable the authors recommend further investigations.

Card 1/2

34164

The coefficient of linear expansion... $\frac{\text{S/196/62/000/002/016/023}}{\text{E194/E155}}$

20-100 20-200 20-300 20-400 20-500 20-600 20-650 t, °C

a. 10⁶ 17.12 18.33 18.57 18.60 18.64 19.22 19.52 1/°C

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[Abstractor's note: Complete translation.]

Card 2/2

SHLYGIN, Yevgeniy Dmitriyevich; SHAG1ROVA, I.M., red.

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CIA-RDP86-00513R001549720014-8

SHLYGIN, YE. D.

21080 Borukayev, R.A. i Shlygin, Ye. D. Ucheny y, inzhener, organizator (K 50-letiyu so dlya Rozheniya prezidenta Akad. Nauk Kazakh. SSR K.I. Satpayeua) Vestnik Akad. Nauk Kazakh, SSR, 1949, No. 4, S. 24-33--Bibliogr<<rr>
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(Karaganda Basin--Geology) (Geology--Karaganda Basin) (Petrenko, A.A.) (Ritenberg, M.I.)

SHLYGIN, E.D.

USER/ Geology

Oard 1/1

Pub. 123 - 9/11

Authors

s Shlygin, E. D.; Mukhamedzhanov, S. M.; and Reysgof, G. A.

Title

About the tectonics of the Meso-Cenozoic era formations of the northern Kazakh folding areas

Periodical : Vest. AN Kaz. SSR 2, 79 - 82, Feb 1955

Abstract

s Geological data are presented regarding the tectonics of the Meso-Cenozoic era formations of the northern Kazakh folding areas. Drawing.

Institution:

Presented by: Academician K. I. Satpayev

SHLYGIA KE U.

15-1957-7-8951

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7,

pp 9-10

AUTHOR: Shlygin, Ye. D., Koroleva, M. N.

TITLE: Ordovician Type Sections and Paleogeography of the

Stepnyak Region, Northern Kazakhstan (Tipy stratigraficheskikh razrezov i paleogeografiya ordovika Pristepnyakovskogo rayona Severnogo Kazakhstana)

PERIODICAL: Izv. AN KazSSR, ser. geol., 1956, Nr 22, pp 82-91

ABSTRACT: Data are given on the stratigraphy of the Ordovician

rocks which border the "Kokchetav block" on the east. Here Llandeilian rocks rest on the Precambrian metamorphic formations and on comparatively weakly metamorphosed, unfossiliferous deposits provisionally referred to Proterozoic-Ordovician. They are predominantly clastic and volcanic formations--silt-

stones, tuff-sandstones, pebble conglomerates, tuffs,

Card 1/3 and porphyrites. Limestones occur in the upper part

15-1957-7-8951

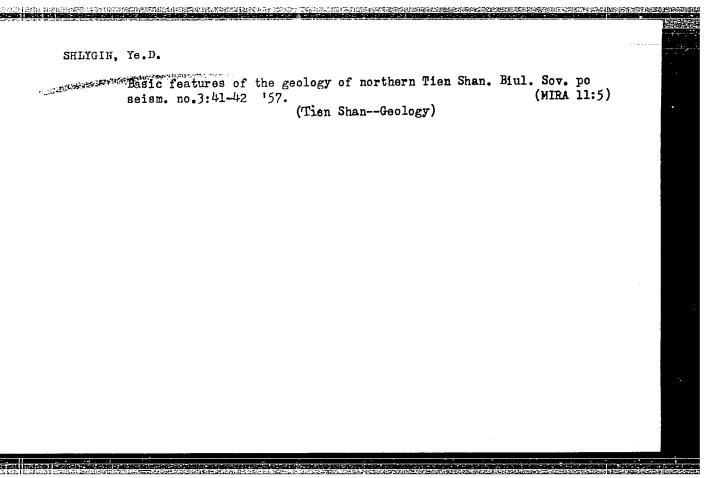
Ordovician Type Sections and Paleogeography of the Stepnyak Region, Northern Kazakhstan (Cont.)

of these deposits with Lonchodomas cf. rostratus (Sars.), L. latus sp. nov., L. karakanensis Web., and Asaphus knyrkoi On the southwest, along the Achaly and Konur Rivers, graptolites characteristic of the Llandeilian occur in rocks which, in the author's opinion, are similar to those described above. Overlying rocks of the Caradocian are divided into 3 horizons--Zhulubayskiy, Lower Maylisorskiy, and Upper Maylisorskiy. The Zhulubayskiy horizon is chiefly clastic rocks with thin layers of porphyrites and tuffs. Pseudoclimacograptus scharenbergi (Lapw.) is found in the clastic formations; this form is peculiar to the upper part of the Llandeilian and the lower part of the Caradocian. The Lower Maylisorskiy horizon consists of various predominantly basic porphyrites, alternating with tuffs and individual layers of sedimentary rock. In this horizon are found Orthograptus cf. pageanus (Lapw.), O. sp., Trinodus glabratus var. kirgizica Web., Illaenus Iongus sp. nov., I. cf. linnarssoni Holm, Onchonotus korejscho sp. nov., Metopolichas anderkensis Web., and Sphaerexochus Card 2/3

Ordovician Type Sections and Paleogeography of the Stepnyak Region, Northern Kazakhstan (Cont.)

conusoides sp. nov. The Upper Maylisorskiy horizon consists of limestone grading upward into shale and sandstone. In these deposits were found Endoceras cf. megastoma Eichw., these deposits were found Endoceras cf. megastoma Eichw., Geisonoceras sp., Nomotelus calvus sp. nov., Harpes costatus Ang., Remopleurides pisiformis Web., R. giganteus sp. nov., Illaenus linnarssoni Holm, I. oviformis Warb., Brontus romanovskii Web., Amphilichas koksorensis sp. nov., A. sniatkovi Web., Sphaerexochus hisingeri Warb., Pliomera sniatkovi Web., Sphaerexochus hisingeri Warb., Pliomera and Orthograptus (Rectograptus) almatyensis Kell. On the basis of a study of these rocks it is established that at the beginning of the Ordovician (before the Llandeilian) this region was dry land. Transgression began in the Llanthis region was dry land. Transgression began in the Llandeilian, embracing a region bounded on the west by the Kokchetavskiy block and on the east by the uplift which is marked farther south by the Stalinskiy mine. Card 3/3

N. F. Nikitin



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(Kazakhstan--Geology, Stratigraphic)

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[Basic ideas of N.G.Kassin on the geology of Kazakhstan; collected studies dedicated to the memory of Nikolai Grigor'yevich Kassin, an Academician of the Academy of Sciences of the Kazakh S.S.R.] Osnovnye idei N.G.Kassina v geologii Kazakhstana; sbornik posviashchen svetloi pamiati akademika AN KazSSR Nikolaia Grigor'evicha Kassina. Alma-Ata, 1960. 420 p. (MIRA 14:4)

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: Not given Inst : The Study of Epicutaneous Immunization with Title Live Associated Brucella-Tularemia Vaccine in an Experiment

: Zh. mikrobiol., epidemiol. i immunobiol., Orig Pub 1958, No 2, 3-7

: Guinea pigs were immunized epicutaneously Abstract with a liquid associated vaccine, which contained 50 billion brucella bacteria and 1 billion or 10 million tularemia bacteria in 1 ml of the vaccine. It was demonstrated that the application of this vaccine caused

Cará 1/3 Inch. Epidemidogy nikrobidogy im Varraleja

USSR / Microbiology. Microbes, Pathogenic to Man and Animals. General Problems.

: Ref Zhur - Biologiya, No 5, 1959, No. 19545 Abs Jour

> the formation of immunity to tularemia. 1 month, the immunity intensity did not differ from its intensity in animals inoculated with a single tularemia vaccine; in 5 months, it was somewhat lower. The application of associated vaccine also did not hinder the formation of antibodies and allergination in the organism, caused by tularemia antigens. The associated vaccine, containing 1 billion tularemia bacteria in 1 ml of the vaccine, caused more active formation of antibodies and a somewhat greater survival of the animals than the vaccine, containing 10 million tularemia bacteria in 1 ml of the vaccine. Epicutaneous immunization of the guinea pigs

SHLYGINA, K.N.

Variability of Listeria. Zhur.mikrobiol.epid. i immun. 30 no.2:56-61 F '59. (MIRA 12:3)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.
(LISTERIA,

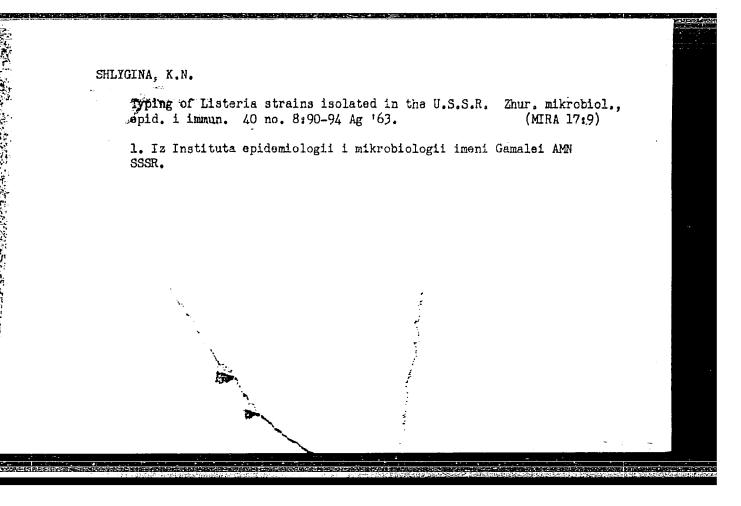
variability (Rus))

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OLSUF'YEV, N.G.; PETROV, V.G.; SHLYGINA, K.H.

Detection of Erysipelothrix and Listeria in stream water.
Zhur.mikrobiol.epid. i inmun. 30 no.3:89-94 Mr '59.
(MIRA 12:5)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei ANGI SSSR.

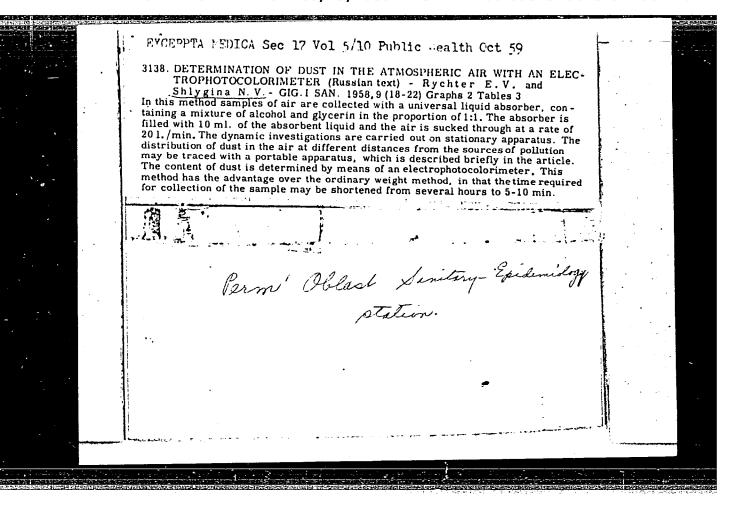
(MATER SUFPLY, microbiology,
Erysipelothrix rhusiopathiae & Listeria in spring water (Rus))
(ENYSIPELOTHRIX,
rhusiopathiae in spring water (Rus))
(LISTERIA,
in spring water (Rus))
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CHAPLINSKIY, M.B.; SVERDLOV, A.K.; SHLYGINA, K.N.; BELYAYEV, P.A.; DFYCHUK, T.Ya.; VINGGPADOVA, P.A.; TSVIRKO, A.B.; VIGIN, Ye.A.; AGAFONOV, A.I.

Outbreak of an anginous form of erysipeloid. Zhur. mikrobiol., epid. 1 immun. 41 no.12:119 D :64. (MIRA 18:3)

l. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.



SHLYGINA, V.F.; MOROZOVA, A.M.

Elastic drive of artesian waters in the piedmont plain of the Trans-Ili Alatau. Izv. AN Kazakh. SSR. Ser. geol. nauk no.5:42-54 '63. (MTRA 17:1)

1. Institut geologicheskikh anuk AN KazSSR, Alma-Ata i Kazakhskiy gidro-geologicheskiy trest, Alma-Ata.

SHENGINA, V.F.

Underground subsurface flow from the northern slopes of the Trans-Ili Alatau and its role in the replenishment of the underground waters of alluvial fans. Izv. AN Karakh. SSR. Ser. geol. 21 no.4:48-62 Jl-Ag 164. (MIRS 17:11)

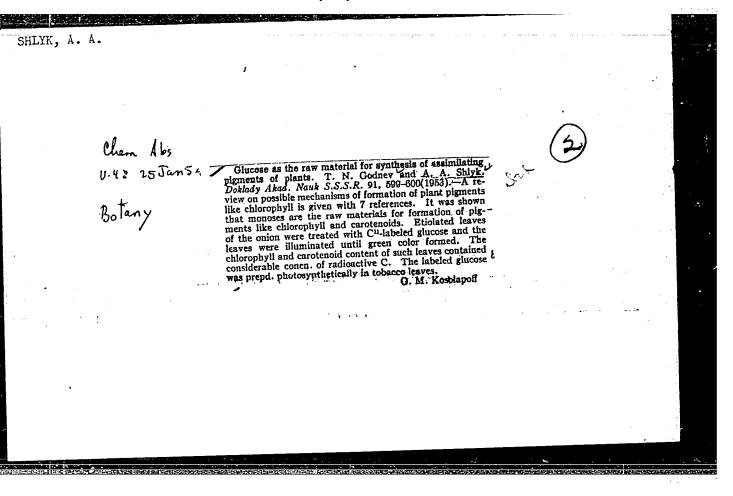
A. Institut geologicheskikh nauk IN KazSSR imeni Satpayeva, Alma-Ata.

- 1. GODNEV, T. N., SHLYK, A. A., TRET'YAK, N. K.
- 2. USSR (600)
- 4. Phosphorus
- 7. Role of phosphor in the structure of choloroplast. Dokl. AN SSSR, 87, No. 3, 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001549720014-8



SHLYK, A. A.

"The Use of the Tracer Atom Method to Investigate the Chemistry of Chlorophyll Synthesis in Nature." Cand Chem Sci, Department of Physicomathematical and Technical Sci, Acad Sci Belorussian SSR, 19 Nov 54. (SB, 6 Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

USSR/Physical Chemistry - Kinetics. Combustion. Explosives. Topochemistry.

Catalysis, B-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61080

Author: Pavlyuchenko, M. M., Shlyk, A. A.

Institution: None

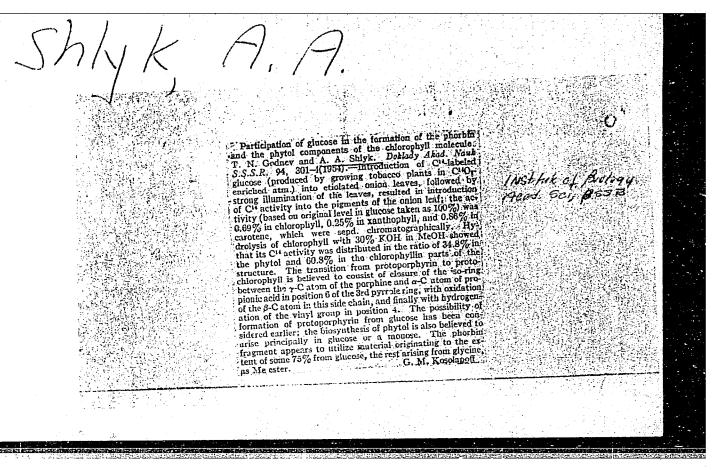
Title: Kinetics of Oxidation of Powdery Copper with Oxygen

Original

Periodical: Uch. zap. Belorussk. un-ta, 1954, No 20, 60-70

Abstract: Study of oxidation of powdery Cu at 130°-260°. At 130°-150° kinetics of the reaction is defined by the equation $x = kt^{1/2}$ where x - depth of Cu₂O layer at the point of time t; k - velocity constant. At 175°-260° exidation of Cu occurs in 2 stages: during the first 30 seconds up to 20-50% of all the Cu are oxidized; thereafter over several hours $\sim 5\%$ Cu are oxidized; the kinetics satisfies the equation $x = k'(t_0 + t)^{1/2}$ where t_0 is constant. On increase of Po_2 from 146 to 700 mm hg the nature of kinetic curves is not changed but the amount of Cu pridized in the first stage increases. On

Card 1/2



"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001549720014-8

SHLYK, A.A.

"On Experimental Features of the Tracer Atom Method," edited by A. A. Imshenetskiy, Corresponding Member, Academy of Medical Sciences USSR, Moscow, Publishing House of the Academy of Sciences USSR, 1955, 239

Sum 1467

COUNTRY

: USSR

CATEGORY

: General Biology.
Physical and Chemical Biology.

В

ABS. JOUR.

RZhBiol., No. 5, 1959, No. 18987

AUTHOR

INST. TITLE

: Shlyk, A. A. : AS USSR. : The Experimental Characteristics of the

Labeled Atom Method.

ORIG. PUB.: V sb.: Isotopy v mikrobiologii. M., Izd-vo AN SSSR, 1955, 234-238

ABSTRACT

: No abstract.

Card:

1/1

SHLYK, A.A.; GODNEY, T.N., akademik, redaktor; ALKKSANDROVICH, Kh., tekhnicheskiy redaktor

[Tagged atom method of studying the biosynthesis of chlorophyll]
Method mechenykh atomov v izuchenii biosinteza klorofilla. Minsk,
Izd-vo Akademii nauk BSSR, 1956. 298 p. (MLRA 9:11)

1. Akademiya nauk BSSR (for Godnev)
(CHLOROPHYLL) (RADIOACTIVE TRACERS)

USSR/Plant Physiology. Photosynthesis

I

Abs Jour : Ref Zhur-Biol., No 13, 1958, 58177

: Shlyk A. A., Godnev T. N., Totfarb R. M., Lyakhnovich Ya. P. Author

: Institute of Biology, Belorussian SSR Tnst

: On the Correlation Between the Biosynthesis of Chlorophyll a and Clorophyll b During the Res-Title

toration Process

: Byul. In-ta biol., AN BSSR, No 2, 1956, (1957), Orig Pub

59-64

Abstract

: Nicotiana alata, Syringa valgaris, and Cerato-phylium demersum plants were kept for a period of 24 hours in an atmosphere containing C140 The specific radioactivity of chlorophyll a: purified by double chromatography on glucose and

paper, was found to be three times as high as

Card 1/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549720014-

USSR/Plant Physiology. Photosynthesis

: Ref Zhur-Biol., No 13, 1958, 58176 Abs Jour

Abstract

: absorbed by the leaves was established. Before the flowering phase the quantity of chlorophyll and of photosynthetic activity in the leaf increased. After the flowering, photosynthetic activity in the leaf continued to increase, but the quantity of chlorophyll declined. The photosynthetic activity in the leaf depended on the degree of chlorophyll restoration which was determined by the degree of correlation of total radioactivity of the chlorophyll and its quantity. Chlorophyll b was restored with grater energy than chlorophyll a. As the leaf grew older the decomposition of chlorophyll increased as a result of the intensification of the energy with which chlorophyll molecules were restored. With the unset of time and the phase of final decomposition, each unit of chlorophyll exhibited a maximal photosynthetic activity.

Card 2/2

USSR/TPlant Physiology. Photosynthesis

Ι

Abs Jour : Ref Zhur-Biol., No 13, 1958, 58177

Abstract

that of chlorophyll b. This difference was retained for some time, a fact which pointed to the absence of a rapid conversion of one chlorophyll into the other in the plant. The distribution of cl40 in the different parts of the molecules of the two chlorophyll components was basically equal. The somewhat relatively greater activity of the phytol of chlorophyll b can apparently be explained by the slight interchange of the more radioactive phytol of chlorophyll a with the less radioactive phytol of

chlorophyll b.

Card 2/2

2

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001549720014-8

SHZYK

USSR/Physiology of Plants - Photosynthesis.

I-l

Abs Jour

: Ref Zhur - Biol., No 3, 1958, 10351

Author

: Shlyk, A.A., Godneu, T.N., Rotsharb, R.M., Lyakhnovich,

Ya.P.

Inst

Title

: A Study of the Biosynthesis of Two Chlorophyll Components

in the Process of Restoration.

Orig Pub

: Vestsi Akad Nauk BSSR, Ser. Biyal. n., 1956, No 3, 91-94

Abstract

When Cl40, is assimilated in leaves, whether they are separated from the plant (as in tobacco) or not separated (lilac and aquatic plant (Ceratophyllum demersum)), the specific activity of chlorophyll-a (determinable by a B-type device) is approximately three times greater than that of chlorophyll-b. There was no rapid reciprocal

conversion of elements of the chlorophyll.

Bibliography of eight titles.

Card 1/1

SHLYKH, A. A. and GODNEY, T. N. (Minsk)

"Relation Between Biosynthesis of Chlorophyll and Carotinoid."

paper presented at the Intl. Conference on Radioisotopes in Scientific Research in Paris, 19-20 Sept 1957.

Angewendte Chemie, No. 3, 1958.

SHLYK, A.A.; GODNEV, T.N.; ROTFARB, R.M.; LYAKHNOVICH, Ya.P.

Interrelationship of the biosynthesis of chlorophyll a and chlorophyll b in the restoration process. Biul. Inst. biol. AN BSSR no.2:59-64 (MIRA 17:2)

157. (Chlorophyll)

SHOYK, A.A.; GODNEY, T.N.; LYAKHNOVICH, Ya.P.; ROTFARB, R.M.; YUNEVICH, V.I.

Studying the restoration of chlorophyll components during its accumulation. Biul. Inst. biol. AN BSSR no.2:65-71 '57. (MIRA 11:2)

(Chlorophyll)

GODNEY, T.N.; SHLYK, A.A.; LYAKHNOVICH, Ya.P.

Final stage in the formation of chlorophyll, Hul. Inst. biol. AN (MIRA 1.:2)

BSSR no.2:79-84 '57.

(Chlorophyll)

GODNEV, T.N.; SHLYK, A.A.; LYAKHNOVICH, Ya.P.

Reaction of the transformation of protochlorophyll into chlorophyll
[with summary in English]. Fiziol. rast. 4 no.5:393-396 S-0 '57.

(MIRA 10:11)

1. Institut biologii AN BSSR, Minsk.

(Protochlorophyll) (Chlorophyll)

20-6-39/59

AUTHOR

SHLYK, A.A., Member of the Academy of Science of

the Bjelo-Russian SSR.

GODNEY T.N., ROTFARB, R.M. and LYAKHNOVICH, Ya.P.

On the particular Features of Biosynthesis of the two TITLE

Chlorophyll Components in the Process of Renewal. (Ob osobennostyakh biosinteza dvukh komponentov chlorofil-

la v protsesse obnovleniya. - Russian)

PERIODICAL

Doklady Akademii Nauk SSSR 1957, Vol 113, Nr 6, pp 1324-1327

(U.S.S.R.)

ABSTRACT

In earlier works, where the formation scheme of chlorophyll was suggested, the authors had not touched the problem of the corelation between the components a and b of biosynthesis. The fact that at first with greening only chlorophyll a develops makes the scheme IV (Ill. 1) improbable and points more in the direction of a consecutive formation of one of these pigments from the other according to scheme III. This phenomenon can easily be explained by means of scheme I and scheme II. During the study of chlorophyll renewal by means of marked C14 the authors obtained proof of new developments which are based on already green leaves and not with ethiclated leaves which only began to green. The investigation

CARD 1/3

20-6-39/59

On the particular Features of Biosynthesis of the two Chlorophyll Components in the Process of Renewal.

(2 Illustrations, 3 Tables, 5 Slavic references.)

ASSOCIATION: Biologic Institute of the Academy of Science of the USSR.

(Biologicheskiy institut Akademii nauk SSSR)

PRESENTED BY: -

17.9. 1956 SUBMITTED:

Library of Congress. AVAILABLE:

CARD 3/3

CIA-RDP86-00513R001549720014-8

MASHTAKOV, S.M., prof., doktor biolog.nauk, otv.red.; GODNEV, T.N., akademik, red.; TERENT'YEV, V.M., kand.biolog.nauk, red.; SHLYK, A.A., kand. khimicheskikh nauk, red.; BULAT, O., red.izd-va; TIKHANOVICH; K., tekhred.

[Biochemistry and physiology of plants; collection of scientific works] Biokhimiia i fiziologiia rastenii; sbornik nauchnykh rabot. Minsk, Izd-vo Akad. nauk BSSR, 1958. 295 p. (MIRA 12:1)

1. Akademiya nauk Belorusakoy SSR, Minak. Institut biologii.

2. AN Belorusskoy SSR (for Godney).

(Biochemistry) (Bo

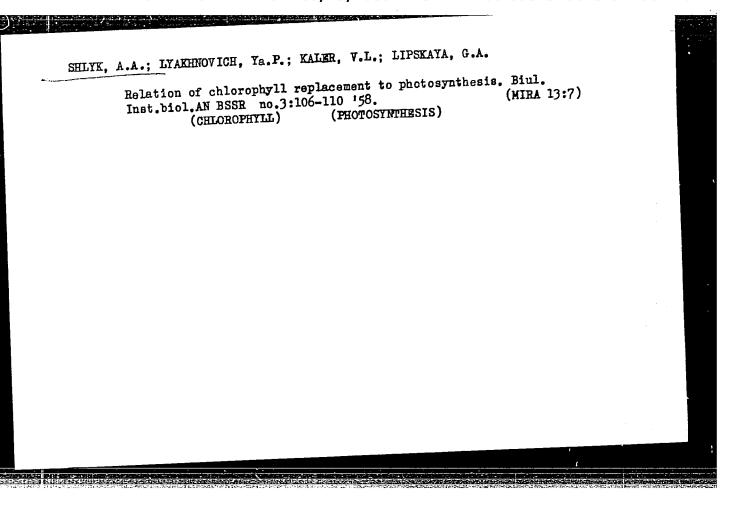
(Botany--Physiology)

SHLYK, A.A.; PRUDNIKOVA, I.V. [Prudnikava, I.V.]

Kinetic features of the extraction of chlorophill from leaves
with nonpolar solvents. Vestsi AN BSSR. Ser.biial.nav. no.9:16-21
with nonpolar (MIRA 11:11)

158.

(Chlorophyll) (Extraction (Chemistry))



SHLYK, A.A.; LYAKHNOVICH, Ya.P.; KALER, V.L.; LIPSKAYA, G.A.

Discrimination of chlorophyll molecules during disintergration in an aging plant. Biul.Inst.biol.AN BSSE no.3:111-114 '58.

(GHLOROPHYLL)

(CHLOROPHYLL)

SHLYK, A.A.; ROTFARB, R.M.; LYAKHNOVICH, Ya.P.

Criteria for the radiochemical purity of chlorophyll. Biul.Inst.
biol.AN BSSR no.3:115-120 '58. (MIRA 13:7)

(CHLOROPHYLL)

USSR/Plant Physiology. Photosynthesis

I-1

Abs Jour : Ref Whur - Biol., No 19, 1958, No 86605

: Godnev T.N., Shlyk A.A., and Lyakhnovich Ya.P. iuthor

: Institute of Biology, AS Belorussian SSR

: On the Reaction of the Transition of Photochlorophyll to Chlorophyll Inst Title

Oric Pub : Fiziol. Rasteniy, 4, No 393-396-1418

Abstract: Study of spectral properties of the pigment extracted with 0.02 M solution of KOH from the ester extract of 10-day ethiolated leaves of barley after 1.50 minutes of exposure to light at a temperature of -5 to 10 degrees C. Only after short-time exposure to light at reduced temperatures did there form a proment analogous to chlorophyllide A and with an absorption maximum at 660 millimicrons in the red part of the spectrum and 1:02 millimicrons in the violet part of the spectrum. According to the authors' hypothesis, the normal predecessor of chlorophyll is monomethyl ester of magnesium-vinyl-pheo-

porphyrin A5, which undergoes a 2-phase transformation: hydration for double bond 7-8 into chlorophyllide A and

: 1/2 Card

USSR/Plant FOR BELFASE; 08/23/2000 CIA-RDP86-00513R001549720014-8

Mbs Jour : Ref Zhur - Biol., No 19, 1953, No 86605

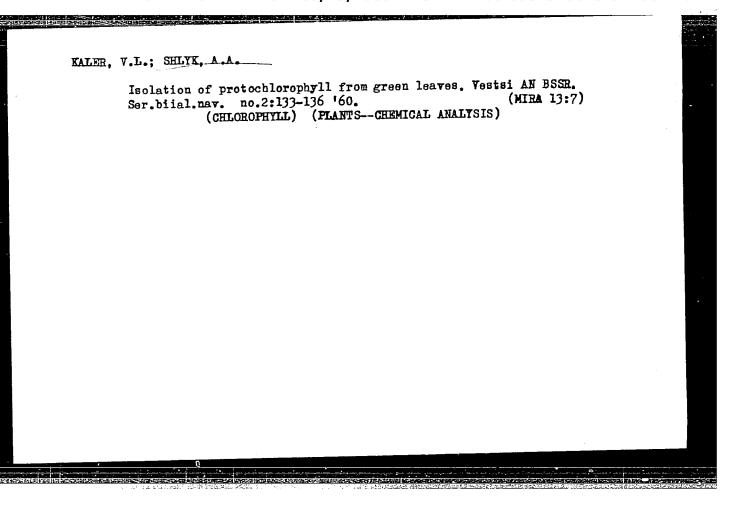
subsequent esterification by phytol. The study was executed in the Institute of Biology AS Belorussian SSR. -- B.Ye. Dravtsova

: 2/2 Card

GODNEY, T.N.; SHLYK, A.A.; ROTFARB, R.M.

Chlorophyl synthesis in angiosprems in darkness [with summary in English]. Fiziol.rast. 6 no.1:36-41 Ja-F '59. (MIRA 12:2)

1. Biology Institute, Byelorussian S.S.R. Academy of Sciences, Minsk. (Chlorophyll) (Plants, Effect of light on)



SHLYK, A.A.; CAPONENKO, V.I.; KUKHTENKO, T.V.

Chlorophyll renewal in the absence of growth. Biul. Inst. biol. AN BSSR no.5:131-137 160. (MIRA 14:7) (CHLOROPHYLL)

SHLYK, A.A.; LYAKHNOVICH, Ya.P.; GAPONENKO, V.I.; PRUDNIKOV, I.V.;
KALER, V.L.

Relation between the specific activity of chlorophyll a and b during the initial stages of renewal. Biul. Inst. biol. AN BSSR no.5:138-140 '60. (MIRA 14:7)

(CHLOROPHYLL)

SHLYK, A.A.; KALER, V.L.

Nature of protochlorophyll of pumkin seeds and its relationships with the pigments of green leaves. Biul. Inst. biol. AN BSSR no.5:141-1/8 160 (MIRA 14:7)

(CHLOROPHYLL) (LEAVES) (PUMPKIN SEED)

SHLYK, A.A.; GAPONENKO, V.I.; KUKHTENKO, T.V.

Spectral properties and nature of chlorophyll a'. Dokl.AN BSSR 4 no.9:393-397 S '60. (MIRA 13:9)

Laboratoriya biofiziki i izotopov AN BSSR. Predstavleno akad.
 AN BSSR T.N. Godnevym.
 (Chlorophyll)

GODNEY, T.N.; ROTFARB, R.M.; SHLYK, A.A.

Biosynthesis of phytol by angiosperm seeds in dark. Fiziol. rast. 7 no.1:81-82 '60. (MIRA 13:5)

1. Institute of Biology, B.S.S.R. Academy of Sciences, Minsk. (Phytol)

SHLYK, A.A.; GAPONENKO, V.I.; PRUDNIKOVA, I.V.; KUKHTENKO, T.V.; LYAKHNOVICH, Ya.P.; KALER, V.L.

Comparative study of the renewal of chlorophyll in different parts of the plant. Fiziol, rast. 7 no.6:625-637 '60. (MIRA 14:1)

1. Leboratory of Biophynics and Isotopes, Byelorussian S.S.R. Academy of Sciences, Minsk.

(Chlorophyll)

SHLYK, A.A.; KALER, V.L.; PODCHUFAROVA, G.M.

Protochlorophyllide in green leaves exposed to light.

Dokl.AN SSSR 133 no.6:1472-1475 Ag *60.

(MIRA 13:8)

1. Iaboratoriya biofiziki i izotopov Akademii nauk BSSR g.Minsk. Predstavleno akad. A.P.Vinogradovym. (Chlorophyll)
(Plants, Effect of light on)

SHLYK, A. A. (Dr.) (USSR)

"Study of Chlorophyll Metabolism by Means of Tracer Method."

report to be submitted for the Photosynthesis Symposium, 5th Intl. Congress of Biochemistry, Moscow, 10-16 Aug 1961.

SHLYK, A. A., KALER, V. L., and FODCHUFAROVA, C. M. (USSR)

"Frotchlorophyllide in the Green Plant."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

SHLYK, A. A., and GODNEY, T. N. (USSR)

"Biosynthesis and Regeneration of Chlorophyll in Connection with Photosynthesis."

Report presented at the 6th International Biochemistry Congress, Moscow, 10-16 Aug 1961

SHLYK, A.A.; MASHEHKOV, V.A. [Mashankou, V.A.]; NIKOLAYEVA, G.N. [Nikalaeve, H.N.]; PRIDNIKOVA, I.V. [Prudnikava, I.V.]; KUKHTENKO, T.V. [Kukhtsenka, T.V.]

Investigating the reaction of alkaline splitting of chlorophyll method of studying the localization of tagged carbon. Vestsi AN BSSR. Ser. bital. nav. no.3:37-46 '61. (MIKA 14:10)

(CHLOROPHYLL)

SHLYK, A.A.; NIKOLAYAVA, G.N.; VLAS HOK, L.I.; GODNAV, T.N.
Chlorophyllide formation in the extraction of chlorophyll fi

Chlorophyllide formation in the extraction of chlorophyll from green leaves with aqueous acetone. Pokl. AN BSSR 5 no.8:364-368 Ag '61. (MTRA 14:8)

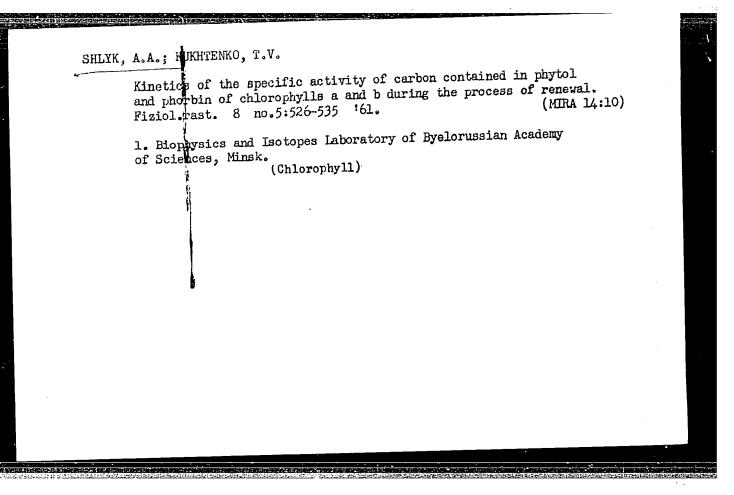
1. Laboratoriya biofiziki i izotopov AN BSSR, Institut biologii AN BSSR.

(Chlorophyll) (Extraction (Chemistry))

SHLYK, A.A.; FRADKIN, L.I.

Isotope-kinetic analysis of the possibility of successive biosynthesis of chlorophylls a and b. Biofizika 6 no.4:424-435 '61. (MTRA 14:7)

l. Laboratoriya biofiziki i izotopov AN Belorusskoy SSR. (CHLOROPHYLL)



SHLYK, A.A.; KALER, V.L.; PODCHUFAROVA, G.M.

Study of protochlorophyllide accumulation and transformation in green plants by radiochromatography with a carrier. Biokhimiia 26 no.2:259-265 Mr-Ap '61. (MIRA 14:5)

1. Laboratory of Biophysics and Isotopes, Academy of Sciences of the Byelorussian S.S.R., Minsk.
(CHLOROPHYLL) (CHROMATOGRAPHIC ANALYSIS)
(CARBON—ISOTOPES)

SHLYK, A.A.; GAPONENKO, V.I.; KUKHTENKO, T.V.

The determining role of complete synthesis and breakdown of the molecule in the renewal of chlorophyll. Dokl. AN BSSR 6 no.3: 189-192 Mr '62. (MIRA 15:3)

l. Laboratoriya biofiziki i izotopov AN BSSR. Predstavleno akademikom AN BSSR T.N.Godnevym.

(CHLOROPHYLL)

GODNEV, T.N., akademik; SHLYK, A.A.

Work on photosynthesis in White Russia. Vest.AN SSSR 32

(MIRA 15:7)

no.7:54-59 Jl *62.

1. Akademiya nauk Belorusskoy SSR (for Godnev).

(White Russia---Photosynthesis----Research)

35734

3/020/62/143/002/021/022 B144/B138

27.1140

AUTHORS:

Shlyk, A. A., and Nikolayeva, G. N.

TITLE:

Metabolic heterogeneity of chlorophyll in a plant

Akademiya nauk SSSR. Doklady, v. 143, no. 2, 1962, 460 - 463 PERICUICAL:

TEXT: Combining of C14 tagged atoms by fractional extraction (1), chlorophyllase (2), and photodecolorization (3) was studied to confirm the hypothesis of metabolic heterogeneity of chlorophyll (CH). 1) Green leaves of sugar beet were exposed for 10 - 30 min to 0.140, and after an interval of

10 - 30 min subjected to fractional extraction by petroleum ether containing 0.5, 2, and 10 or 20% ethanol (extracts I-IV), and finally by a 1:1 ethanol-acetone mixture. Specific activity (SA) of extract I was twice as high as the almost equal SA of extracts II - IV. 2) Partial hydrolysis of CH by chlorophyllase was studied in beet leaves (repeated acetone treatment and centrifugation). Chlorophyllase mainly affects CH contained in young molecules, which is easily extractable. SA in extracts was reduced by $\sim 1/6$ compared with controls. 3) Clivia leaves were exposed Card 1/3

APPROVED FOR RELEASE: 08/23/2000

Card 2/3

CIA-RDP86-00513R001549720014-8 5/020/62/143/002/021/021/0238 B144/B138

for 20 - 120 min to $c^{14}O_2$, dissolved in 1/15 M K_2^{HPO} 4, filtered, centrifused, suspended in 1/15 M K2HPO4 and the filtrate diluted with glycerin Metabolic heterogeneity ... (4:5). After separation of a control portion the rest of the homogenate (4: 0). After separation of a control portion the rest of the nomogenate ~1/5 - 1/2 of was exposed for 1 - 2 hrs to 250.000 lux in an epidiascope. reliable re-OH was decolorized.

OH was decolorized.

Output

Outp Un was decolorized. Determination of that young that young that young approaches prove that young choice approaches prove that young choice and can be easily in a particular choice and can be easily and contact approaches prove that young the east contact approaches prove enction. All three approaches prove that young on molecules in green particular state and can be easily leaves are, at least partially, in a particular state and can be easily leaves are, at least partially, in a particular state and can be easily particular state and can be easily considered and can be easily particular state and can be easily leaves are, at least partially, in a particular particular particular particular state and can be easily particular state and can be easily particular state and can be easily leaves are, at least partially, in a particular particular state and can be easily particular state and can be easily particular state and can be easily leaves are, at least partially, in a particular particular particular state and can be easily leaves are, at least partially, in a particular state and can be easily leaves are, at least partially, in a particular state and can be easily leaves are, at least partially, in a particular state and can be easily leaves are, at least partially, in a particular state and can be easily leaves are and can be easily leaves are at least partially, in a particular state and can be easily leaves are at least partially, in a particular state and can be easily leaves are at least partially. them and their removal led to a SA reduction in the remaining pigment. Them and their removal led to a sh reduction in the remaining plement.
This fact also proved the absence of exchange between young and old CH mais lact also proved the absence of exchange between young and old on molecules. A difficult future task is the elucidation of the apparently molecules. A difficult future task is the SA of which is 5 -48 times law and the SA of which is 5 -48 times l molecules. A difficult future task is the elucidation of the apparently molecules. A difficult future task is the elucidation of the apparently for the SA of which is 5 - 18 times less the SA of which is 5 - 18 times less lower metabolic heterogeneity of CH b, thanked for assistance. The four most than that of CH a. L. I. Vlasenok is thanked for assistance. The four most than that of CH a. L. I. Soviet and 6 non-Soviet. The four most than that of CH a. L. I. Soviet and 6 non-Soviet. than that of the b. i. viasenok is thanked for assistance. The four most 3 tables and 19 references: 13 Soviet and 6 non-Soviet. tables and 19 references: 19 poviet and o non-poviet. The four most A. A. recent references to English-language publications read as follows: I. recent references Plant Physiol. 11. 363 (1960): C. S. French. J. graenovsky. Ann. Rev. Plant Physiol. recent references to English-Language publications read as IOLLOWS; A. Krasnovsky, Ann. Rev. Plant Physiol., 11, 363 (1960); G. S. French, J. Krasnovsky, Ann. Rev. Plant Physiol., 58, 323 (1959); Govindies. E. R. Mash. Year Book. Krasnovsky, Ann. Rev. Plant Physiol., 11, 363 (1960); C. S. French, J. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 11, 363 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 58, 323 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 58, 323 (1960); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 11, 363 (1960); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 11, 363 (1960); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1960); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1959); Govindjee, E. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1950); M. Holden, Biochem. J. Rabino-Krasnovsky, Ann. Rev. Plant Physiol., 12, 363 (1950); M. Holden, Biochem. J. Rabino-Krasnovsky, 12, 363 (1950); M. Holden, Biochem. Rev. Physiol., 12, 363 (1950); M. Rabino-Krasnovsky, 12, 363

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Shlyk, A. A., and Stanishevskaya, Ye. M.

TITLE:

AUTHORS:

Card 1/2

Biosynthesis of chlorophyll b in green plants in the dark

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 1, 1962, 226-229

TEXT: Experiments were made with 5- to 8-day-old wheat plants to observe the synthesis of chlorophyll b in the dark. After illumination for 20-30 min in a chamber filled with C¹⁴O₂ part of the plants were fixed with vapor (controls) and the remainder left in the dark for 1-4 days. In both cases, the specific activity of chlorophyll a and b was determined by a method described earlier (A. A. Shlyk, V. I. Gaponenko et al., Fiziol. rast., 7, 625 (1960)). The specific activity of chlorophyll b had increased in the dark by a multiple. As the increase was established in general as well as in the phorbin and phytol fractions of the chlorophyll, the biosynthesis of the whole chlorophyll b molecule in the dark was proved. Chlorophyll a can be used for checking the degree of darkening because its biosynthesis is inhibited by darkness in most higher plants including wheat, and thus its general activity is reduced. At the same time, its

Biosynthesis of chlorophyll ...

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specific activity decreases. This can be explained by the fact that, when decomposing in the dark, the young chlorophyll a molecules that are formed in the chamber filled with ${\rm C^{40}_2}$ undergo conversion more readily than do old ones. In view of this observation and on the strength of earlier data (A. A. Shlyk, L. I. Fradkin, Biofizika, 6, 424 (1961)), the following pattern is suggested for the formation of chlorophyll b: $\longrightarrow a' \longrightarrow b$

For the time being the possibility of stimulating the conversion process in light cannot be ruled out. There are 4 tables.

ASSOCIATION: Laboratoriya biofiziki i izotopov Akademii nauk BSSR

(Laboratory of Biophysics and Isotopes of the Academy of

Sciences BSSR)

PRESENTED: December 7, 1961, by A. L. Kursanov, Academician

SUBMITTED: December 7, 1961

Card 2/2

SHEYK, A. A. and NIKOLAYEVA, G. N.

"Manisfestations de l'heterogeneite de la chlorophylle dans le metabolisme des feuilles."

(The Existence of Metabolic Heterogeneity of Chlorophylls in Vivo) report presented at the Intl. Colloq uium on Photosynthesis, Gif-Sur-Yvette, France, 23-27 Jul 1962.

Shlyk, A. A. - Lab of Biophysics and Isotopes, Acad. Sci. Belorussian SSR

GODNEV, T.N.; SHIYK, A.A.

[C¹ in studying the biosynthesis of chlorophyll]C¹ v izu-chenii biosinteza khlorofilla. Moskva, 1955. 12 p.

(Carbon-Isotopes) (Chlorophyll)

\$/026/62/000/012/003/007 D036/D114

AUTHORS:

Shlyk, A.A., Vlasenok, L.I., Stanishevskaya, Ye.M. and

Nikolayeva, G.N.

TITLE:

Light and the formation of chlorophyll in green foliage

PERIODICAL:

Card 1/2

Priroda, no. 12, 1962, 91-94

The role of light in chlorophyll formation in green leaves is discussed. It is shown how regeneration of chlorophyll was proved by the marked atom method. V.L. Kaler and G.M. Podchufarova from the authors' laboratory extracted protochlorophyllide from leaves and showed that it is stored in darkness. Further tests showed that light is required only for converting protoch or ophyllide into chlorophyllide, and not for phytol formation. Light is not needed in the conversion of chlorophyll "a" into chlorophyll "b". The existence of at least two types of chlorophyll "a", differing in spatial arrangement of their molecules, is ascribed by the authors to the continuity of the regeneration process. On the basis of experiments in extracting marked chlorophyll molecules with solvents of increasing polarity, they consider that the newly formed molecules combine

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Light and the formation of ...

into a structure of more labile form, thus making up for transition of the older molecules into some other state and perpetuating this form. It is considered that the two or more forms of chlorophyll are spatially sufficiently close to each other to enable transition of one molecule into another. It is thought that knowledge of the dynamic process of chlorophyll formation will provide a basis for controlling the photosynthetic activity of plants. There are 5 figures.

ASSOCIATION: Laboratoriya biofiziki i izotopov AN BSSR (Laboratory of Biophysics and Isotopes, AS BSSR), Minsk

Card 2/2

SHLYK, A.A.; FRADKIN, L.I.

Rate of chlorophyll metabolism in green plants. Biofizika 7
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KALER, V.L.; SHLYK, A.A.

Change in the protochlorophyll content in the life process of green plants. Biokhimiia 27 no.4:599-607 Jl-Ag '62. (MIRA 15:11)

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(PROTOCHLOROPHYLL) (PLANTS, EFFECT OF LIGHT ON)

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Biosynthesis of phytol in the dark by green barley plants. Biokhlmia 27 no.6:984-992 N-D '62. (MIRA 17:5)

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SHLYK, A.A.; NIKOLAYEVA, G.N.

Metabolic heterogeneity of chlorophyll in plants. Dokl. AN SSSR 143 no.2:460-463 Mr 162. (MIRA 15:3)

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Kinetics of C¹⁴ during the renewal of chlorophyll in barley and tobacco plants. Fiziol. rast. 9 no.5:521-533 '62. (MIRA 15:10)

1. Laboratory of Biophysics and Isotopes, Byelorussian S.S.R. Academy of Sciences, Minsk.
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SHLYK, A.A. [Shlyk, A.A.]; LOSEV, A.P. [Loseu, A.P.]

Distribution of C¹⁴ in chlorophyls a and b in etiolated leaves which have turned green. Vesti AN ESSR Ser. biial. nav. no.1: 21-33'63. (MIRA 16:9) (CARBON ISOTOPES) (CHLOROPHYLL)

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Life dedicated to Soviet science. Vestsi AN RSSR Ser. biial.
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(MIRA 17:10)

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